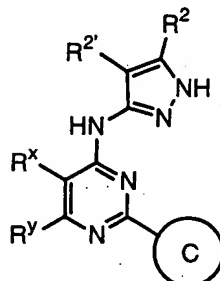


We claim:

1. A compound of formula II:



II

or a pharmaceutically acceptable derivative or prodrug thereof, wherein;

Ring C is selected from a phenyl, pyridinyl, pyrimidinyl, pyridazinyl, pyrazinyl, or 1,2,4-triazinyl ring, wherein said Ring C has one or two ortho substituents independently selected from -R¹, any substitutable non-ortho carbon position on Ring C is independently substituted by -R⁵, and two adjacent substituents on Ring C are optionally taken together with their intervening atoms to form a fused, unsaturated or partially unsaturated, 5-6 membered ring having 0-3 heteroatoms selected from oxygen, sulfur or nitrogen, said fused ring being optionally substituted by halo, oxo, or -R⁸;

R¹ is selected from -halo, -CN, -NO₂, T-V-R⁶, phenyl, 5-6 membered heteroaryl ring, 5-6 membered heterocyclyl ring, or C₁₋₆ aliphatic group, said phenyl, heteroaryl, and heterocyclyl rings each optionally substituted by up to three groups independently selected from halo, oxo, or -R⁸, said C₁₋₆ aliphatic group optionally substituted with halo, cyano, nitro, or oxygen, or R¹ and an adjacent substituent taken together with their intervening atoms form said ring fused to Ring C;

R^x and R^y are independently selected from $T-R^3$, or R^x and R^y are taken together with their intervening atoms to form a fused, unsaturated or partially unsaturated, 5-8 membered ring having 0-3 ring heteroatoms selected from oxygen, sulfur, or nitrogen, wherein any substitutable carbon on said fused ring formed by R^x and R^y is substituted by oxo or $T-R^3$, and any substitutable nitrogen on said ring formed by R^x and R^y is substituted by R^4 ;

T is a valence bond or a C_{1-4} alkylidene chain;

R^2 and $R^{2'}$ are independently selected from $-R$, $-T-W-R^6$, or R^2 and $R^{2'}$ are taken together with their intervening atoms to form a fused, 5-8 membered, unsaturated or partially unsaturated, ring having 0-3 ring heteroatoms selected from nitrogen, oxygen, or sulfur, wherein each substitutable carbon on said fused ring formed by R^2 and $R^{2'}$ is substituted by halo, oxo, $-CN$, $-NO_2$, $-R^7$, or $-V-R^6$, and any substitutable nitrogen on said ring formed by R^2 and $R^{2'}$ is substituted by R^4 ;

R^3 is selected from $-R$, $-halo$, $-OR$, $-C(=O)R$, $-CO_2R$, $-COCOR$, $-COCH_2COR$, $-NO_2$, $-CN$, $-S(O)R$, $-S(O)_2R$, $-SR$, $-N(R^4)_2$, $-CON(R^7)_2$, $-SO_2N(R^7)_2$, $-OC(=O)R$, $-N(R^7)COR$, $-N(R^7)CO_2(C_{1-6} \text{ aliphatic})$, $-N(R^4)N(R^4)_2$, $-C=NN(R^4)_2$, $-C=N-OR$, $-N(R^7)CON(R^7)_2$, $-N(R^7)SO_2N(R^7)_2$, $-N(R^4)SO_2R$, or $-OC(=O)N(R^7)_2$;

each R is independently selected from hydrogen or an optionally substituted group selected from C_{1-6} aliphatic, C_{6-10} aryl, a heteroaryl ring having 5-10 ring atoms, or a heterocyclyl ring having 5-10 ring atoms;

each R^4 is independently selected from $-R^7$, $-COR^7$, $-CO_2(\text{optionally substituted } C_{1-6} \text{ aliphatic})$, $-CON(R^7)_2$, or $-SO_2R^7$, or two R^4 on the same nitrogen are taken

together to form a 5-8 membered heterocyclyl or heteroaryl ring;

each R^5 is independently selected from -R, halo, -OR, -C(=O)R, -CO₂R, -COCOR, -NO₂, -CN, -S(O)R, -SO₂R, -SR, -N(R⁴)₂, -CON(R⁴)₂, -SO₂N(R⁴)₂, -OC(=O)R, -N(R⁴)COR, -N(R⁴)CO₂(optionally substituted C₁₋₆ aliphatic), -N(R⁴)N(R⁴)₂, -C=NN(R⁴)₂, -C=N-OR, -N(R⁴)CON(R⁴)₂, -N(R⁴)SO₂N(R⁴)₂, -N(R⁴)SO₂R, or -OC(=O)N(R⁴)₂, or R^5 and an adjacent substituent taken together with their intervening atoms form said ring fused to Ring C;

V is -O-, -S-, -SO-, -SO₂-, -N(R⁶)SO₂-, -SO₂N(R⁶)-, -N(R⁶)-, -CO-, -CO₂-, -N(R⁶)CO-, -N(R⁶)C(O)O-, -N(R⁶)CON(R⁶)-, -N(R⁶)SO₂N(R⁶)-, -N(R⁶)N(R⁶)-, -C(O)N(R⁶)-, -OC(O)N(R⁶)-, -C(R⁶)₂O-, -C(R⁶)₂S-, -C(R⁶)₂SO-, -C(R⁶)₂SO₂-, -C(R⁶)₂SO₂N(R⁶)-, -C(R⁶)₂N(R⁶)-, -C(R⁶)₂N(R⁶)C(O)-, -C(R⁶)₂N(R⁶)C(O)O-, -C(R⁶)=NN(R⁶)-, -C(R⁶)=N-O-, -C(R⁶)₂N(R⁶)N(R⁶)-, -C(R⁶)₂N(R⁶)SO₂N(R⁶)-, or -C(R⁶)₂N(R⁶)CON(R⁶)-;

W is -C(R⁶)₂O-, -C(R⁶)₂S-, -C(R⁶)₂SO-, -C(R⁶)₂SO₂-, -C(R⁶)₂SO₂N(R⁶)-, -C(R⁶)₂N(R⁶)-, -CO-, -CO₂-, -C(R⁶)OC(O)-, -C(R⁶)OC(O)N(R⁶)-, -C(R⁶)₂N(R⁶)CO-, -C(R⁶)₂N(R⁶)C(O)O-, -C(R⁶)=NN(R⁶)-, -C(R⁶)=N-O-, -C(R⁶)₂N(R⁶)N(R⁶)-, -C(R⁶)₂N(R⁶)SO₂N(R⁶)-, -C(R⁶)₂N(R⁶)CON(R⁶)-, or -CON(R⁶)-;

each R^6 is independently selected from hydrogen or an optionally substituted C₁₋₄ aliphatic group, or two R^6 groups on the same nitrogen atom are taken together with the nitrogen atom to form a 5-6 membered heterocyclyl or heteroaryl ring;

each R^7 is independently selected from hydrogen or an optionally substituted C₁₋₆ aliphatic group, or two R^7 on the same nitrogen are taken together with the nitrogen to form a 5-8 membered heterocyclyl or heteroaryl ring; and

each R^8 is independently selected from an optionally substituted C_{1-4} aliphatic group, $-OR^6$, $-SR^6$, $-COR^6$, $-SO_2R^6$, $-N(R^6)_2$, $-N(R^6)N(R^6)_2$, $-CN$, $-NO_2$, $-CON(R^6)_2$, or $-CO_2R^6$.

2. The compound according to claim 1, wherein said compound has one or more features selected from the group consisting of:

(a) Ring C is a phenyl or pyridinyl ring, optionally substituted by $-R^5$, wherein when Ring C and two adjacent substituents thereon form a bicyclic ring system, the bicyclic ring system is selected from an optionally substituted naphthyl, quinolinyl or isoquinolinyl ring;

(b) R^x is hydrogen or C_{1-4} aliphatic and R^y is $T-R^3$, or R^x and R^y are taken together with their intervening atoms to form an optionally substituted 5-7 membered unsaturated or partially unsaturated ring having 0-2 ring nitrogens;

(c) R^1 is -halo, an optionally substituted C_{1-6} aliphatic group, phenyl, $-COR^6$, $-OR^6$, $-CN$, $-SO_2R^6$, $-SO_2NH_2$, $-N(R^6)_2$, $-CO_2R^6$, $-CONH_2$, $-NHCOR^6$, $-OC(O)NH_2$, or $-NHSO_2R^6$; and

(d) $R^{2'}$ is hydrogen and R^2 is hydrogen or a substituted or unsubstituted group selected from aryl, heteroaryl, or a C_{1-6} aliphatic group, or R^2 and $R^{2'}$ are taken together with their intervening atoms to form a substituted or unsubstituted benzo, pyrido, pyrimido or partially unsaturated 6-membered carbocyclo ring.

3. The compound according to claim 2, wherein:

(a) Ring C is a phenyl or pyridinyl ring, optionally substituted by $-R^5$, wherein when Ring C and two adjacent substituents thereon form a bicyclic ring

system, the bicyclic ring system is selected from an optionally substituted naphthyl, quinolinyl or isoquinolinyl ring;

(b) R^x is hydrogen or C_{1-4} aliphatic and R^y is $T-R^3$, or R^x and R^y are taken together with their intervening atoms to form an optionally substituted 5-7 membered unsaturated or partially unsaturated ring having 0-2 ring nitrogens;

(c) R^1 is -halo, an optionally substituted C_{1-6} aliphatic group, phenyl, $-COR^6$, $-OR^6$, $-CN$, $-SO_2R^6$, $-SO_2NH_2$, $-N(R^6)_2$, $-CO_2R^6$, $-CONH_2$, $-NHCOR^6$, $-OC(O)NH_2$, or $-NHSO_2R^6$; and

(d) $R^{2'}$ is hydrogen and R^2 is hydrogen or a substituted or unsubstituted group selected from aryl, heteroaryl, or a C_{1-6} aliphatic group, or R^2 and $R^{2'}$ are taken together with their intervening atoms to form a substituted or unsubstituted benzo, pyrido, pyrimido or partially unsaturated 6-membered carbocyclo ring.

4. The compound according to claim 2, wherein said compound has one or more features selected from the group consisting of:

(a) Ring C is a phenyl or pyridinyl ring, optionally substituted by $-R^5$, wherein when Ring C and two adjacent substituents thereon form a bicyclic ring system, the bicyclic ring system is selected from an optionally substituted naphthyl ring;

(b) R^x is hydrogen or methyl and R^y is $-R$, $N(R^4)_2$, or $-OR$, or R^x and R^y are taken together with their intervening atoms to form a 5-7 membered unsaturated or partially unsaturated carbocyclo ring optionally substituted with $-R$, halo, $-OR$, $-C(=O)R$, $-CO_2R$, $-COCOR$, $-NO_2$, $-CN$, $-S(O)R$, $-SO_2R$, $-SR$, $-N(R^4)_2$, $-CON(R^4)_2$, $-SO_2N(R^4)_2$, $-OC(=O)R$, $-N(R^4)COR$, $-N(R^4)CO_2$ (optionally

substituted C_{1-6} aliphatic), $-N(R^4)N(R^4)_2$, $-C=NN(R^4)_2$,
 $-C=N-OR$, $-N(R^4)CON(R^4)_2$, $-N(R^4)SO_2N(R^4)_2$, $-N(R^4)SO_2R$, or
 $-OC(=O)N(R^4)_2$;

(c) R^1 is -halo, a C_{1-6} haloaliphatic group, a C_{1-6} aliphatic group, phenyl, or -CN;

(d) $R^{2'}$ is hydrogen and R^2 is hydrogen or a substituted or unsubstituted group selected from aryl, or a C_{1-6} aliphatic group, or R^2 and $R^{2'}$ are taken together with their intervening atoms to form a substituted or unsubstituted benzo, pyrido, pyrimido or partially unsaturated 6-membered carbocyclo ring; and

(e) each R^5 is independently selected from -halo, -CN, $-NO_2$, $-N(R^4)_2$, optionally substituted C_{1-6} aliphatic group, -OR, $-C(O)R$, $-CO_2R$, $-CONH(R^4)$, $-N(R^4)COR$, $-SO_2N(R^4)_2$, and $-N(R^4)SO_2R$.

5. The compound according to claim 4, wherein:

(a) Ring C is a phenyl or pyridinyl ring, optionally substituted by $-R^5$, wherein when Ring C and two adjacent substituents thereon form a bicyclic ring system, the bicyclic ring system is selected from an optionally substituted naphthyl ring;

(b) R^x is hydrogen or methyl and R^y is -R, $N(R^4)_2$, or -OR, or R^x and R^y are taken together with their intervening atoms to form a 5-7 membered unsaturated or partially unsaturated carbocyclo ring optionally substituted with -R, halo, -OR, $-C(=O)R$, $-CO_2R$, $-COCOR$, $-NO_2$, -CN, $-S(O)R$, $-SO_2R$, -SR, $-N(R^4)_2$, $-CON(R^4)_2$, $-SO_2N(R^4)_2$, $-OC(=O)R$, $-N(R^4)COR$, $-N(R^4)CO_2$ (optionally substituted C_{1-6} aliphatic), $-N(R^4)N(R^4)_2$, $-C=NN(R^4)_2$, $-C=N-OR$, $-N(R^4)CON(R^4)_2$, $-N(R^4)SO_2N(R^4)_2$, $-N(R^4)SO_2R$, or $-OC(=O)N(R^4)_2$;

(c) R^1 is -halo, a C_{1-6} haloaliphatic group, a C_{1-6} aliphatic group, phenyl, or -CN;

(d) $R^{2'}$ is hydrogen and R^2 is hydrogen or a substituted or unsubstituted group selected from aryl, or a C_{1-6} aliphatic group, or R^2 and $R^{2'}$ are taken together with their intervening atoms to form a substituted or unsubstituted benzo, pyrido, pyrimido or partially unsaturated 6-membered carbocyclo ring; and

(e) each R^5 is independently selected from -halo, -CN, -NO₂, -N(R⁴)₂, optionally substituted C_{1-6} aliphatic group, -OR, -C(O)R, -CO₂R, -CONH(R⁴), -N(R⁴)COR, -SO₂N(R⁴)₂, and -N(R⁴)SO₂R.

6. The compound according to claim 4, wherein said compound has one or more features selected from the group consisting of:

(a) R^x is hydrogen or methyl and R^y is methyl, methoxymethyl, ethyl, cyclopropyl, isopropyl, t-butyl, alkyl- or an optionally substituted group selected from 2-pyridyl, 4-pyridyl, piperidinyl, or phenyl, or R^x and R^y are taken together with their intervening atoms to form a 6-membered unsaturated or partially unsaturated carbocyclo ring optionally substituted with -halo, -R, -OR, -COR, -CO₂R, -CON(R⁴)₂, -CN, or -N(R⁴)₂ wherein R is an optionally substituted C_{1-6} aliphatic group;

(b) R^1 is -halo, a C_{1-4} aliphatic group optionally substituted with halogen, or -CN;

(c) R^2 and $R^{2'}$ are taken together with their intervening atoms to form a benzo, pyrido, pyrimido or partially unsaturated 6-membered carbocyclo ring optionally substituted with -halo, -N(R⁴)₂, - C_{1-4} alkyl, - C_{1-4} haloalkyl, -NO₂, -O(C_{1-4} alkyl), -CO₂(C_{1-4} alkyl), -CN, -SO₂(C_{1-4} alkyl), -SO₂NH₂, -OC(O)NH₂, -NH₂SO₂(C_{1-4} alkyl), -NHC(O)(C_{1-4} alkyl), -C(O)NH₂, or -CO(C_{1-4} alkyl), wherein the (C_{1-4} alkyl) is a straight, branched, or cyclic alkyl group; and

(d) each R^5 is independently selected from -Cl, -F, -CN, -CF₃, -NH₂, -NH(C₁₋₄ aliphatic), -N(C₁₋₄ aliphatic)₂, -O(C₁₋₄ aliphatic), C₁₋₄ aliphatic, and -CO₂(C₁₋₄ aliphatic).

7. The compound according to claim 6, wherein:

(a) R^x is hydrogen or methyl and R^y is methyl, methoxymethyl, ethyl, cyclopropyl, isopropyl, t-butyl, alkyl- or an optionally substituted group selected from 2-pyridyl, 4-pyridyl, piperidinyl, or phenyl, or R^x and R^y are taken together with their intervening atoms to form a benzo ring or a partially unsaturated carbocyclo ring optionally substituted with -halo, -R, -OR, -COR, -CO₂R, -CON(R⁴)₂, -CN, or -N(R⁴)₂ wherein R is an optionally substituted C₁₋₆ aliphatic group;

(b) R^1 is -halo, a C₁₋₄ aliphatic group optionally substituted with halogen, or -CN;

(c) R^2 and $R^{2'}$ are taken together with their intervening atoms to form a benzo, pyrido, pyrimido or partially unsaturated 6-membered carbocyclo ring optionally substituted with -halo, -N(R⁴)₂, -C₁₋₄ alkyl, -C₁₋₄ haloalkyl, -NO₂, -O(C₁₋₄ alkyl), -CO₂(C₁₋₄ alkyl), -CN, -SO₂(C₁₋₄ alkyl), -SO₂NH₂, -OC(O)NH₂, -NH₂SO₂(C₁₋₄ alkyl), -NHC(O)(C₁₋₄ alkyl), -C(O)NH₂, or -CO(C₁₋₄ alkyl), wherein the (C₁₋₄ alkyl) is a straight, branched, or cyclic alkyl group; and

(d) each R^5 is independently selected from -Cl, -F, -CN, -CF₃, -NH₂, -NH(C₁₋₄ aliphatic), -N(C₁₋₄ aliphatic)₂, -O(C₁₋₄ aliphatic), C₁₋₄ aliphatic, and -CO₂(C₁₋₄ aliphatic).

8. The compound according to claim 7, wherein R^x and R^y are each methyl or R^x and R^y are taken together with the pyrimidine ring to form an optionally substituted

ring selected from quinazoline or tetrahydroquinazoline, and R^2 and $R^{2'}$ are taken together with the pyrazole ring to form an optionally substituted indazole ring.

9. The compound according to claim 1, wherein said compound is selected from Table 1.

10. A composition comprising a compound according to claim 1 and a carrier.

11. The composition according to claim 10 further comprising a second therapeutic agent.

12. A method of inhibiting GSK-3 or Aurora activity in a patient comprising the step of administering to said patient a therapeutically effective amount of the composition according to claim 10.

13. The method according to claim 12, wherein said method inhibits GSK3 activity in a patient.

14. A method of inhibiting GSK-3 or Aurora activity in a biological sample comprising contacting said biological sample with the compound according to claim 1.

15. A method of treating a disease that is alleviated by treatment with an GSK-3 inhibitor, said method comprising the step of administering to a patient in need of such a treatment a therapeutically effective amount of the composition according to claim 10.

16. The method according to claim 15 further comprising the step of administering to said patient a second therapeutic agent.

17. The method according to claim 15, wherein said disease is diabetes.

18. The method according to claim 15, wherein said disease is Alzheimer's disease.

19. The method according to claim 15, wherein said disease is schizophrenia.

20. A method of enhancing glycogen synthesis in a patient in need thereof, which method comprises the step of administering to said patient a therapeutically effective amount of the composition according to claim 10.

21. A method of lowering blood levels of glucose in a patient in need thereof, which method comprises the step of administering to said patient a therapeutically effective amount of the composition according to claim 10.

22. A method of inhibiting the production of hyperphosphorylated Tau protein in a patient in need thereof, which method comprises the step of administering to said patient a therapeutically effective amount of the composition according to claim 10.

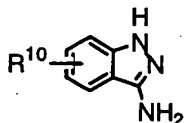
23. A method of inhibiting the phosphorylation of β -catenin in a patient in need thereof, which method comprises the step of administering to said patient a therapeutically effective amount of the composition according to claim 10.

24. A method of treating a disease that is alleviated by treatment with an aurora inhibitor, which method comprises the step of administering to a patient in need of such a treatment a therapeutically effective amount of the composition according to claim 10.

25. The method according to claim 24, further comprising the step of administering to said patient a second therapeutic agent.

26. The method according to claim 24 wherein said disease is cancer.

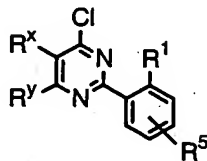
27. A compound of formula A:



A

wherein R¹⁰ is one to three substituents that are each independently selected from fluoro, bromo, C₁₋₆ haloalkyl, nitro, or 1-pyrrolyl.

28. A compound of formula B:



B

wherein:

R¹ is selected from Cl, F, CF₃, CN, or NO₂;

R⁵ is one to three substituents that are each

independently selected from H, Cl, F, CF₃, NO₂, or CN, provided that R¹ and R⁵ are not simultaneously Cl;

R^x and R^y are independently selected from T-R³, or R^x and R^y are taken together with their intervening atoms to

form a fused, unsaturated or partially unsaturated, 5-8 membered ring having 0-3 ring heteroatoms selected from oxygen, sulfur, or nitrogen, wherein any substitutable carbon on said fused ring formed by R^x and R^y is optionally and independently substituted by $T-R^3$, and any substitutable nitrogen on said ring formed by R^x and R^y is substituted by R^4 ;

T is a valence bond or a C_{1-4} alkylidene chain;

R^3 is selected from -R, -halo, -OR, $-C(=O)R$, $-CO_2R$, $-COCOR$, $-COCH_2COR$, $-NO_2$, $-CN$, $-S(O)R$, $-S(O)_2R$, $-SR$, $-N(R^4)_2$, $-CON(R^7)_2$, $-SO_2N(R^7)_2$, $-OC(=O)R$, $-N(R^7)COR$, $-N(R^7)CO_2$ (optionally substituted C_{1-6} aliphatic), $-N(R^4)N(R^4)_2$, $-C=NN(R^4)_2$, $-C=N-OR$, $-N(R^7)CON(R^7)_2$, $-N(R^7)SO_2N(R^7)_2$, $-N(R^4)SO_2R$, or $-OC(=O)N(R^7)_2$;

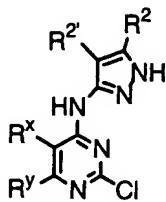
each R is independently selected from hydrogen or an optionally substituted group selected from C_{1-6} aliphatic, C_{6-10} aryl, a heteroaryl ring having 5-10 ring atoms, or a heterocyclyl ring having 5-10 ring atoms;

each R^4 is independently selected from $-R^7$, $-COR^7$, $-CO_2$ (optionally substituted C_{1-6} aliphatic), $-CON(R^7)_2$, or $-SO_2R^7$, or two R^4 on the same nitrogen are taken together to form a 5-8 membered heterocyclyl or heteroaryl ring; and

each R^7 is independently selected from hydrogen or an optionally substituted C_{1-6} aliphatic group, or two R^7 on the same nitrogen are taken together with the nitrogen to form a 5-8 membered heterocyclyl or heteroaryl ring.

29. The compound according to claim 28 wherein R^1 is CF_3 .

30. A compound of formula C:



C

wherein:

R^2 and $R^{2'}$ are independently selected from $-R$, $-T-W-R^6$, or R^2 and $R^{2'}$ are taken together with their intervening atoms to form a fused, 5-8 membered, unsaturated or partially unsaturated, ring having 0-3 ring heteroatoms selected from nitrogen, oxygen, or sulfur, wherein each substitutable carbon on said fused ring formed by R^2 and $R^{2'}$ is substituted by halo, oxo, $-CN$, $-NO_2$, $-R^7$, or $-V-R^6$, and any substitutable nitrogen on said ring formed by R^2 and $R^{2'}$ is substituted by R^4 ;

R^x and R^y are independently selected from $T-R^3$, or R^x and R^y are taken together with their intervening atoms to form a fused, unsaturated or partially unsaturated, 5-8 membered ring having 0-3 ring heteroatoms selected from oxygen, sulfur, or nitrogen, wherein any substitutable carbon on said fused ring formed by R^x and R^y is optionally and independently substituted by $T-R^3$, and any substitutable nitrogen on said ring formed by R^x and R^y is substituted by R^4 ;

T is a valence bond or a C_{1-4} alkylidene chain;

V is $-O-$, $-S-$, $-SO-$, $-SO_2-$, $-N(R^6)SO_2-$, $-SO_2N(R^6)-$, $-N(R^6)-$, $-CO-$, $-CO_2-$, $-N(R^6)CO-$, $-N(R^6)C(O)O-$, $-N(R^6)CON(R^6)-$, $-N(R^6)SO_2N(R^6)-$, $-N(R^6)N(R^6)-$, $-C(O)N(R^6)-$, $-OC(O)N(R^6)-$, $-C(R^6)_2O-$, $-C(R^6)_2S-$, $-C(R^6)_2SO-$, $-C(R^6)_2SO_2-$, $-C(R^6)_2SO_2N(R^6)-$, $-C(R^6)_2N(R^6)-$, $-C(R^6)_2N(R^6)C(O)-$, $-C(R^6)_2N(R^6)C(O)O-$, $-C(R^6)=NN(R^6)-$, $-C(R^6)=N-O-$, $-C(R^6)_2N(R^6)N(R^6)-$, $-C(R^6)_2N(R^6)SO_2N(R^6)-$, or $-C(R^6)_2N(R^6)CON(R^6)-$;

W is $-C(R^6)_2O-$, $-C(R^6)_2S-$, $-C(R^6)_2SO-$, $-C(R^6)_2SO_2-$,
 $-C(R^6)_2SO_2N(R^6)-$, $-C(R^6)_2N(R^6)-$, $-CO-$, $-CO_2-$,
 $-C(R^6)OC(O)-$, $-C(R^6)OC(O)N(R^6)-$, $-C(R^6)_2N(R^6)CO-$,
 $-C(R^6)_2N(R^6)C(O)O-$, $-C(R^6)=NN(R^6)-$, $-C(R^6)=N-O-$,
 $-C(R^6)_2N(R^6)N(R^6)-$, $-C(R^6)_2N(R^6)SO_2N(R^6)-$,
 $-C(R^6)_2N(R^6)CON(R^6)-$, or $-CON(R^6)-$;

R^3 is selected from $-R$, $-halo$, $-OR$, $-C(=O)R$, $-CO_2R$,
 $-COCOR$, $-COCH_2COR$, $-NO_2$, $-CN$, $-S(O)R$, $-S(O)_2R$, $-SR$,
 $-N(R^4)_2$, $-CON(R^7)_2$, $-SO_2N(R^7)_2$, $-OC(=O)R$, $-N(R^7)COR$,
 $-N(R^7)CO_2$ (optionally substituted C_{1-6} aliphatic),
 $-N(R^4)N(R^4)_2$, $-C=NN(R^4)_2$, $-C=N-OR$, $-N(R^7)CON(R^7)_2$,
 $-N(R^7)SO_2N(R^7)_2$, $-N(R^4)SO_2R$, or $-OC(=O)N(R^7)_2$;

each R is independently selected from hydrogen or an
optionally substituted group selected from C_{1-6}
aliphatic, C_{6-10} aryl, a heteroaryl ring having 5-10
ring atoms, or a heterocyclyl ring having 5-10 ring
atoms;

each R^4 is independently selected from $-R^7$, $-COR^7$,
 $-CO_2$ (optionally substituted C_{1-6} aliphatic), $-CON(R^7)_2$,
or $-SO_2R^7$, or two R^4 on the same nitrogen are taken
together to form a 5-8 membered heterocyclyl or
heteroaryl ring.

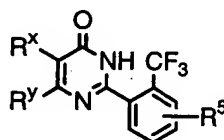
each R^6 is independently selected from hydrogen or an
optionally substituted C_{1-4} aliphatic group, or two R^6
groups on the same nitrogen atom are taken together
with the nitrogen atom to form a 5-6 membered
heterocyclyl or heteroaryl ring; and

each R^7 is independently selected from hydrogen or an
optionally substituted C_{1-6} aliphatic group, or two R^7
on the same nitrogen are taken together with the
nitrogen to form a 5-8 membered heterocyclyl or
heteroaryl ring.

31. The compound according to claim 30, wherein R^x and R^y are each methyl, or R^x and R^y are taken together with the pyrimidine ring to form a quinazoline or tetrahydroquinazoline ring.

32. The compound according to claim 31, wherein R^2 and $R^{2'}$ are taken together with the pyrazole ring to form an indazole ring.

33. A compound of formula D:



D

wherein:

R^x and R^y are independently selected from T- R^3 , or R^x and R^y are taken together with their intervening atoms to form a fused, unsaturated or partially unsaturated, 5-8 membered ring having 0-3 ring heteroatoms selected from oxygen, sulfur, or nitrogen, wherein any substitutable carbon on said fused ring formed by R^x and R^y is optionally and independently substituted by T- R^3 , and any substitutable nitrogen on said ring formed by is substituted by R^4 ;

T is a valence bond or a C_{1-4} alkylidene chain;

R^3 is selected from -R, -halo, -OR, -C(=O)R, -CO₂R, -COCOR, -COCH₂COR, -NO₂, -CN, -S(O)R, -S(O)₂R, -SR, -N(R^4)₂, -CON(R^7)₂, -SO₂N(R^7)₂, -OC(=O)R, -N(R^7)COR, -N(R^7)CO₂(optionally substituted C_{1-6} aliphatic), -N(R^4)N(R^4)₂, -C=NN(R^4)₂, -C=N-OR, -N(R^7)CON(R^7)₂, -N(R^7)SO₂N(R^7)₂, -N(R^4)SO₂R, or -OC(=O)N(R^7)₂;

each R is independently selected from hydrogen or an optionally substituted group selected from C_{1-6} aliphatic, C_{6-10} aryl, a heteroaryl ring having 5-10

ring atoms, or a heterocyclyl ring having 5-10 ring atoms;
each R^4 is independently selected from $-R^7$, $-\text{COR}^7$, $-\text{CO}_2$ (optionally substituted C_{1-6} aliphatic), $-\text{CON}(\text{R}^7)_2$, or $-\text{SO}_2\text{R}^7$, or two R^4 on the same nitrogen are taken together to form a 5-8 membered heterocyclyl or heteroaryl ring; and
each R^5 is independently selected from $-\text{R}$, halo, $-\text{OR}$, $-\text{C}(=\text{O})\text{R}$, $-\text{CO}_2\text{R}$, $-\text{COCOR}$, $-\text{NO}_2$, $-\text{CN}$, $-\text{S}(\text{O})\text{R}$, $-\text{SO}_2\text{R}$, $-\text{SR}$, $-\text{N}(\text{R}^4)_2$, $-\text{CON}(\text{R}^4)_2$, $-\text{SO}_2\text{N}(\text{R}^4)_2$, $-\text{OC}(=\text{O})\text{R}$, $-\text{N}(\text{R}^4)\text{COR}$, $-\text{N}(\text{R}^4)\text{CO}_2$ (optionally substituted C_{1-6} aliphatic), $-\text{N}(\text{R}^4)\text{N}(\text{R}^4)_2$, $-\text{C}=\text{NN}(\text{R}^4)_2$, $-\text{C}=\text{N}-\text{OR}$, $-\text{N}(\text{R}^4)\text{CON}(\text{R}^4)_2$, $-\text{N}(\text{R}^4)\text{SO}_2\text{N}(\text{R}^4)_2$, $-\text{N}(\text{R}^4)\text{SO}_2\text{R}$, or $-\text{OC}(=\text{O})\text{N}(\text{R}^4)_2$.

34. The compound according to claim 33, wherein R^x and R^y are each methyl, or R^x and R^y are taken together with the pyrimidine ring to form a quinazoline or tetrahydroquinazoline ring.